MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM ID 2215)

DII5014 – INTRODUCTION TO INVESTMENT

(All sections/Groups)

15 FEBRUARY 2023
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages.
2. Attempt **ALL** questions. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.
4. The formulae are given in the appendices.

QUESTION 1

Serena had only recently begun her career as an investor. She discovered that stock prices are not fixed and will fluctuate from time to time, so she wishes to profit from this price movement. She purchased 250 shares of Budi Akal Berhad at RM 1.35 per share, a 70% profit margin. Assume the required margin for the bank is 78%. Answer the following question based on Serena's scenario.

(a) Calculate the investment value for Serena's transaction. (2 marks)

(b) Calculate the debit balance for Serena's transaction. (2 marks)

(c) How much equity capital must Serena provide for this margin transaction? (2 marks)

(d) If Budi Akal Berhad share price rises to RM1.60, what will be the new margin position? (4 marks)

(e) Will there be a margin call in part (c.)? If yes, how much is the new debit balance in order to maintain the 78% margin? (4 marks)

(f) Calculate the total return on invested capital for Serena if she sells Budi Akal Berhad shares at the price of RM 1.80 with the assumption of 4.5% interest charged on margin, and dividend received were RM 0.15 per share. (6 marks)

(Total : 20 marks)

QUESTION 2

The portfolio of Miss Wan Ying, which consists of two types of investments, is shown below. Give an overview of Miss Wan Ying's overall portfolio performance by responding to the following questions..

	Expected Return (%)	
Year	Preferred Stock	Bond
2020	13	18
2021	8	12
2022	10	10

(a) Calculate the expected portfolio return for each of the given year, where Preferred Stock will represent 55% weightage of the portfolio. (7.5 marks)

Continued ...

(b) Calculate the average expected portfolio return over the period. (3 marks)

(c) Calculate the standard deviation of expected portfolio return. (7.5 marks)

(d) Will you advice Miss Wan Ying to invest in this stock? Why? (2 marks)

(Total :20 marks)

QUESTION 3

(a) Define holding period return (HPR). (1 mark)

(b) David Teo purchased an ordinary share for RM14.50 per share, held it for two quarters while collecting RM3.90 per share dividends, and then sold it for RM17.50 Determine its HPR. (3 marks)

(c) Ali Hussain thinks that now is the ideal time to invest. Please assist him in calculating the total return in RM and in percentage for each stock based on the table below. *(You are required to draw and complete the table below in your answer booklet)*

Stock	Beginning Price (RM)	Ending Price (RM)	Dividend Received (RM)	Total return	
				RM	Percentage
Lazadoo	7.00	9.00	3.25		
Shofee	9.00	8.00	3.05		
Easy.my	8.00	10.00	3.45		
Zafora	10.00	12.00	3.75		
Karousell	11.00	10.50	3.15		

(16 marks)

(Total : 20 marks)

Continued ...

QUESTION 4

Given the following information for the year ended 2021.

	RM
Total Current Assets	40,500
Fixed Assets	110,300
Interest Expense	17,300
Total Current Liabilities	30,600
Account Payable	16,415
Sales	103,100
Account Receivable	20,400
Long-Term Debt	41,100
Inventory	20,350
Net profit after taxes	10,364

Calculate:

(a) Net Working Capital (2 marks)

(b) Current ratios (2 marks)

(c) Accounts receivable turnover (2 marks)

(d) Total asset turnover (2.5 marks)

(e) Debt-equity ratio (5 marks)

(f) Net profit margin (2 marks)

(g) Return on asset (2.5 marks)

(h) Return on equity (2 marks)

(Total : 20 marks)

Continued ...

QUESTION 5

(a) A 7% coupon bond that pays interest annually has a par value of RM 1,000 and matures in 5 years. The market value of the bond today is RM890. Calculate the yield to maturity for the bond. (5 marks)

(b) A bond has a par value of RM1,000, a current yield of 8 percent, and semi-annual interest payments. If the bond is selling at RM970, calculate is the amount of each coupon payment. (4 marks)

(c) A convertible bond has a par value of RM 1,200 and a current market value of RM1,254. The current price of the issuing firm's stock is RM35 and the conversion ratio is 28 shares. Calculate the bond's conversion premium. (3 marks)

(d) Explain any **FOUR (4)** bond essential features. (8 marks)

(Total : 20 marks)

End of Paper

Appendices

1. Margin $= \frac{V-D}{V}$

2. Return on invested capital from a margin transaction

$$= \frac{\text{Total current income received} - \text{Total interest paid on margin loan} + \text{Capital gain/loss}}{\text{Amount of equity at purchase}}$$

3. Risk-free rate = Real rate of return + Expected inflation premium

4. Required return on investment j = Risk-free rate + Risk premium for investment j

5. HPR $= \frac{\text{Income during period} + \text{Capital gain/loss during period}}{\text{Beginning investment value}}$

6. $FV = PV\,(1 + r\,)^n$

7. $D_1 = D_0\,(1 + g\,)^n$

8. Standard Deviation $= \sqrt{\frac{\sum_{t=1}^{n}(ri - \bar{r}\,)^2}{n-1}}$

9. Portfolio return $= \sum_{j=1}^{n}(w_j \times r_j)$

10. $r_j = R_F + [\, b_j \times (r_m - R_F)\,]$

11. Portfolio beta $= \sum_{j=1}^{n}(w_j \times b_j)$

12. EPS $= \frac{\text{Net Income} - \text{Preferred dividends}}{\text{Number of shares of common stock outstanding}}$

13. Dividend yield $= \frac{\text{Anual dividends received per share}}{\text{Current market price of the stock}}$

14. Dividend payout ratio $= \frac{\text{Dividends per share}}{\text{Earnings per share}}$

15. Total returns

= Current income + Capital gains/losses ± Changes in currency exchange rates

16. Current ratio $= \frac{\text{Current assets}}{\text{Current liabilities}}$

17. Net working capital = Current assets – Current liabilities

18. Accounts receivable turnover = $\frac{\text{Annual sales}}{\text{Accounts receivable}}$

19. Inventory turnover = $\frac{\text{Annual sales}}{\text{Inventory}}$

20. Total asset turnover = $\frac{\text{Annual sales}}{\text{Total assets}}$

21. Debt-equity ratio = $\frac{\text{Long-term debt}}{\text{Stockholders' equity}}$

22. Time interest earned = $\frac{\text{EBIT}}{\text{Interest expenses}}$

23. Net profit margin = $\frac{\text{Net profit after taxes}}{\text{Total revenue}}$

24. ROA = $\frac{\text{Net profit after taxes}}{\text{Total assets}}$

25. ROE = $\frac{\text{Net profit after taxes}}{\text{Stockholders' equity}}$

26. P/E = $\frac{\text{Net price of common stock}}{\text{EPS}}$

27. PEG ratio = $\frac{\text{Stock's P/E ratio}}{\text{3-to-5 year growth rate in earnings}}$

28. Dividend per share = $\frac{\text{Annual dividend paid to common stock}}{\text{Number of common shares outstanding}}$

29. Payout ratio = $\frac{\text{Dividends per share}}{\text{Earnings per share}}$

30. Book value per share = $\frac{\text{Common stockholders' equity}}{\text{Number of common shares outstanding}}$

31. Price-to-book-value = $\frac{\text{Market price of common stock}}{\text{Book value per share}}$

32. Taxable equivalent yield = $\frac{\text{Yield on municipal bond}}{\text{1-Federal tax rate}}$

33. Taxable equivalent yield for both federal and state taxes

$$= \frac{\text{Municipal bond yield}}{1-[\text{Federal tax rate} + \text{state tax rate } (1 - \text{Federal tax rate})]}$$

34. Conversion value = Conversion ratio x Current market price of the stock

35. Conversion equivalent $= \frac{\text{Current market price of the convertible bond}}{\text{Conversion ratio}}$

36. Conversion premium (in RM)

= Current market price of the convertible bond – Conversion value

37. Conversion premium (in %) $= \frac{\text{Conversion premium (in RM)}}{\text{Conversion value}}$

38. Payback period =

$$\frac{\text{Conversion premium (in RM)}}{\text{Annual interest income from the convertible bond–Annual dividend income from the underlying common stock}}$$

39. Current yield $= \frac{\text{Annual interest income}}{\text{Current market price of the bond}}$

40. Yield to maturity $= \frac{\text{Annual interest} + \frac{\text{Par value} - \text{Market price}}{\text{Number of years to maturity}}}{\frac{\text{Par value} + \text{market price}}{2}}$

41. Yield to call $= \frac{\text{Annual interest} + \frac{\text{Call price} - \text{Market price}}{\text{Number of years to call}}}{\frac{\text{Call price} + \text{market price}}{2}}$

42. Premium (or discount) $= \frac{\text{Share price} - \text{NAV}}{\text{NAV}}$

43. HPR =

$$\frac{(\text{Number of shares at end of period x Ending price}) - (\text{Number of shares at beginning of period x Initial price})}{\text{Number of shares at beginning of period x Initial price}}$$

44. NAV $= \frac{\text{Fund assets} - \text{Fund liabilities}}{\text{Number of units outstanding}}$